AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this application.

LISTING OF CLAIMS

1. (Currently Amended) A rotary engine comprising two components, namely a stator ~~(2)~~, and a rotor ~~(5)~~ torsionally rigid with an output shaft ~~(6)~~, of said stator ~~(2)~~ and said rotor ~~(5)~~, a first component ~~(2)~~ presenting a chamber ~~(3)~~ the surface of which presents circular symmetry about an axis ~~(10a)~~ of said first component ~~(2)~~, and a second component ~~(5)~~ being formed from a body ~~(7)~~ which is disposed in the interior of said chamber ~~(3)~~, and of which the envelope presents circular symmetry about an axis ~~(9)~~ of said second component ~~(5)~~, said envelope being similar to said chamber ~~(3)~~, said axes ~~(9, 10a)~~ being fixed, mutually parallel and non-aligned, one of said components rotating about its axis ~~(9)~~, the first component being a stator ~~(2)~~ and the second component being a rotor ~~(5)~~ having a body ~~(7)~~ torsionally rigid with the output shaft ~~(6)~~, the axis ~~(9)~~ about which the envelope presents circular symmetry being a rotor axis of rotation ~~(9)~~, said axis ~~(9)~~ being eccentric to the stator axis ~~(10a)~~, the body ~~(7)~~ presenting surface recesses ~~(8a, b)~~ acting as guides for seal means ~~(11a, b)~~ which slide along the surface of the chamber ~~(3)~~ as the body ~~(7)~~ rotates, and which together with the surface of the body ~~(7)~~ and of the chamber ~~(3)~~ define sealed chambers ~~(A, B, C, D)~~, said chambers "sliding" relative to the surface of the stator chamber ~~(3)~~ as the output shaft ~~(6)~~ rotates, ~~characterised in that~~ wherein the seal means ~~(11a, b)~~ are split rings.

2. (Currently Amended) An engine as claimed in claim 1, ~~characterised in that~~ wherein the stator ~~(2)~~ presents a cylindrical cavity ~~(4)~~ for housing the output shaft ~~(6)~~.

3. (Currently Amended) An engine as claimed in claim 2, ~~characterised in that~~ wherein seal means ~~(12)~~ are present between the cylindrical cavity ~~(4)~~ housing the output shaft ~~(6)~~ and the body ~~(7)~~.

4. (Currently Amended) An engine as claimed in claim 1, ~~characterised in that~~ wherein the chamber ~~(3)~~ present in the stator ~~(2)~~ is substantially spherical with its centre ~~(10)~~ lying on the axis ~~(10a)~~, or is ellipsoidal or cylindrical.

5. (Currently Amended) An engine as claimed in claim 1, ~~characterised in that~~ wherein the body ~~(7)~~ has a substantially spherical, ellipsoidal or cylindrical envelope, and has circular symmetry.

6. (Currently Amended) An engine as claimed in claim 5, ~~characterised in that~~ wherein the surface recesses ~~(8a, b)~~ are disposed at 90° apart in the direction of the axis of rotation ~~(9)~~.

7. (Currently Amended) An engine as claimed in claim 1, ~~characterised in that~~ further comprising ports ~~(20a, 21a, b, 22, 23a, b, c, d, e, f, 26, 270)~~ are present in the surface of the chamber ~~(3)~~.

8. (Currently Amended) An engine as claimed in ~~one or more of the preceding claims~~ claim 1, ~~characterised in that~~ wherein the seal means ~~(11a, b)~~ comprise rigid rings ~~(110)~~ and elastic sealing parts ~~(111, 112)~~.

9. (Currently Amended) An engine as claimed in claim 7, ~~characterised in that~~ wherein the seal means ~~(11a, b)~~ present sliding ends of different shape and materials.

10. (Currently Amended) An engine as claimed in ~~one or more of the preceding claims~~ claim 1, ~~characterised in that~~ wherein the seal means ~~(11a, b)~~ urged by elastic means ~~(45)~~, to improve the seal against the surface of the chamber ~~(3)~~.

11. (Currently Amended) An engine as claimed in ~~one or more of the preceding claims~~ claim 1, ~~characterised in that~~ wherein the rigid rings ~~(110)~~ present means ~~(120)~~ for discharging the centrifugal force acting on them.

12. (Currently Amended) An engine as claimed in ~~one or more of the preceding claims~~ claim 1, ~~characterised in that~~ wherein the seal means ~~(11a, b)~~ present further seal means ~~(140)~~ to ensure sealing against the walls of the surface recesses ~~(8a, b)~~.

13. (Currently Amended) An engine as claimed in ~~one or more of the preceding claims~~ claim 1, ~~characterised in that~~ wherein the body ~~(7)~~ presents surface notches ~~(40)~~, recesses ~~(41)~~, protuberances ~~(42)~~, or slots ~~44~~ to improve engine efficiency.

14. (Currently Amended) An engine as claimed in claim 7, ~~characterised in that~~ wherein at least one port ~~(20a, 21a, b, 22, 23a, b, c, d, e, f, 26, 270)~~ is provided with valve means ~~(27)~~.

15. (Currently Amended) A method for operating an engine claimed in ~~one or more of the preceding claims~~ claim 1, ~~characterised in that~~ wherein :
- with the output shaft ~~(6)~~ rotating, compressed air is injected via a first feed port ~~(21a)~~ while fuel is injected via a second feed port ~~(21b)~~, or an air/fuel mixture is injected via only the port ~~(21a)~~;

- an ignition means, present in the port ~~(22)~~, thus ignites the contents of the chamber A;
- the mixture expands to create within the chamber A a pressure, the resultant of which is a force which when transferred to the body ~~(7)~~ creates a variable drive torque on the output shaft ~~(6)~~;
- the exhaust gas mixture is discharged when the chamber A, dragged by the rotation of the shaft, communicates with an exhaust port ~~(23a)~~ and continues to discharge via subsequent ports ~~(23b, c, d, e, f)~~.